DOCUMENT RESUME

ED 263 609 CS 209 444

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TITLE "Megatrends" and Knowledge Gaps: Future Predictions.
PUB DATE 18 Nov 83
NOTE 17p.; Paper presented at the Meeting of the Midwest Association for Public Opinion Research (Chicago, IL, November 18, 1983). Based upon a portion of the authors Ph.D. dissertation, University of Minnesota.
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Analysis; Economic Opportunities; Employment Opportunities; *Futures (of Society); *Information Dissemination; *Knowledge Level; Mass Media; *Social Influences; Social Mobility; Social Stratification; *Sociocultural Patterns; *Socioeconomic Status

ABSTRACT

The distribution of knowledge in society tends to parallel the distribution of other social and economic resources. Currently four major socioeconomic trends point not only to widened knowledge gaps in the future but also to greater divisions between higher and lower socioeconomic status (SES) groups. First, a long-term trend toward a more educated population appears to be reversing, as evidence suggests a decline in the availability and quality of education opportunities. Second, changes in occupational structure, urban ecology, and the structure of the national economy have made it more difficult for lower SES groups to qualify for many information and industrial jobs. Third, families in higher SES groups are much more likely to increase their socioeconomic resources than are families in lower SES groups as women continue to enter the labor force. And fourth, the acquisition and use of the new computer-based mass media are most likely to occur among higher SES groups, creating an unequal distribution of information-seeking resources. These socioeconomic trends raise many questions in the areas of equity; meeting the needs of a large, relatively immobile, poorly educated and low-skilled population; increasing socioeconomic disparities; and mismatches between distributions of blue-collar jobs and residences of blue-collar workers. (HOD)

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"MEGATRENDS" AND KNOWLEDGE GAPS: FUTURE PREDICTIONS

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Presented to the Midwest Association for Public Opinion Research, Chicago, Illinois, November 18, 1983.

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"MEGATRENDS" AND KNOWLEDGE GAPS: FUTURE PREDICTIONS*

The distribution of knowledge in society tends to parallel the distribution of other social and economic resources. Information inequalities are related to other disparities (e.g., Nowak, 1977; Gaziano, 1983a-b).

The purpose of this paper is to examine four major socioeconomic trends which point not only to widened knowledge gaps[1] in the future but also to greater divisions between higher and lower SES groups. These trends are: (1) decline in availability and quality of education opportunities, (2) changes in occupational structure, urban ecology, and the structure of the national economy, (3) increases in the distribution of women in the labor force, and (4) unequal distribution of information-seeking resources and new media technology.

The bestseller, Megatrends (Naisbitt, 1982), examines one of these, the change in the structure of the economy, as a "megatrend," and the author mentions aspects of the other three but does not term them megatrends. He does not consider the problem of widening information disparities, nor does he focus on the relationship between any of the four trends mentioned above and changes in socioeconomic differentials. Such a relationship should be of interest to many researchers, business people, and policy makers.

Decline in Availability and Quality of Education

The distribution of high school and college educations has increased greatly in this century.[2] For example, less than seven percent of children aged 14 to 17 were enrolled in school and only three percent of Americans aged 18 to 21 attended

*See Author's Note, p. 11.

college in 1890. Today, about one-third of the adult population 25 years old and older haveattended college, and more than one-third have high school degrees. About 31 percent have less than a high school degree.[3]

Declines in the quality of public education in the past two decades may reverse this trend toward an increasingly educated population (Blumberg, 1980; Gaziano, 1983a). One may predict greater knowledge disparities in the future which are linked to greater education disparities. Schools, especially in inner cities, are increasingly preoccupied with discipline problems, depleting time and energy for teaching. The middle class continues to leave the cities for the suburbs and smaller communities, which means that city schools are dominated increasingly by the disadvantaged (Sternlieb and Hughes, 1983). These are the students with whom schools historically have been the least successful for a variety of reasons.

The number of high school dropouts and the amount of chronic absenteeism is growing in many states (Naisbitt, 1982). As many as one-fifth of American adults are functionally illiterate, that is, deficient in ability to read, write, and compute tasks necessary for daily life (Copperman, 1980).

The gap in educational attainment between blacks and whites has decreased for high school degrees but increased for college degrees, according to figures reported by Dye (1975). Although black students still average 110 points less than whites on College Board scores, blacks' scores are increasing at a greater rate than are scores of white students (Raspberry, 1982). This gap may be closing. Blacks have made so many social and economic gains that a division among blacks has developed which led a black sociologist to conclude that class has now eclipsed race in importance as a line of social demarcation (Wilson, 1978). However, the chasm may be widening between the black middle class and the black underclass left behind in the center cities (e.g., see Russell, 1977),[4] which has diminishing access to jobs which might bring its members out of poverty.

Occupational Structure, Urban Ecology, and Structure of the Economy

In the last three decades a shift has occurred in the distribution of white-collar and blue-collar jobs, which conflicts with the distribution of workers' residences. White-collar workers tend to live in suburbs and to work in central cities. Blue-collar workers tend to live in central cities, but blue-collar jobs are located in suburbs more and more frequently. Access to these suburban blue-collar jobs by minority groups in cities is limited by lack of transportation, growing costs of commuting by car, and inability to move to the suburbs (Kasarda, 1976; Gans, Kasarda, and Molotch, 1982).[5] "Moreover, suburban zoning restrictions on low-cost housing and discriminatory practices prevent the vast majority of the urban poor from obtaining inexpensive residential sites near expanding suburban industries" (Kasarda, p. 115).

Professional, administrative, technical, clerical, financial, communication, and specialized business services are becoming more concentrated in cities. Poor educations prevent lower-class city inhabitants from obtaining jobs in these areas (Kasarda, 1976; Gans, Kasarda, and Molotch, 1982; Sternlieb and Hughes, 1983). In addition, the growth of these activities in cities has contributed to "high unemployment, rising welfare rolls, shrinking tax bases, and growing public service demands. . ." (Kasarda, p. 114).

The cities are increasingly impotent to provide help to those who are most needy because of population losses, eroding tax bases, rising costs of services, increased demands for services by the influx of suburbanite workers who do not pay city taxes, and a growing loss of blue-collar jobs to the suburbs. These cities also are faced with a loss of white-collar jobs as companies move to the suburbs to avoid hiring minority group members for less-skilled work (Kasarda).

Corporations have been forced to provide remedial courses in math and English for entry-level workers because of failures of the educational system

(Naisbitt, 1982). "Just when offices are demanding more highly skilled workers. . .--what they are getting is graduates who would have a hard time qualifying for the jobs that are already technologically obsolete"(Naisbitt, p. 32).

Thus, several changes have occurred which intensify employment problems and widen differentials between more and less advantaged SES groups. Increasingly poor schooling in cities ill-prepares lower SES groups for entry-level blue-collar and white-collar jobs. Jobs for which they might have qualified increasingly either are located in inaccessible suburban areas or require higher levels of skill than these groups possess. Jobs for which they once would have qualified are being phased out by changes in the nation's economy from an industrial-based economy to one dominated by information and service sectors (Bell, 1973; Smith, 1975; Blumberg, 1980; Naisbitt, 1982). In 1950, about 17 percent of workers were in jobs related to information; now more than 60 percent work in information-handling jobs, and only about 13 percent are involved in manufacturing jobs (Naisbitt). This great jump in the growth of information-related occupations occurred at least partly because of the larger size of the work force and its increased education (Naisbitt). Growing reliance on "high technology" in both information and industrial sectors, which requires strong literacy skills, will shut out workers lacking such skills. This will include not only lower SES groups seeking entry-level jobs but also higher SES groups which have been poorly educated:

> . . . the most formidable challenge will be to train people to work in the information society. Jobs will become available, but who will possess the high-tech skills to fill them? Not today's graduates who cannot manage simple arithmetic or write basic English. And certainly not the unskilled, unemployed dropouts who cannot even find work in the old 'sunset' industries (Naisbitt, p. 250).

Shortages of qualified high school teachers of science and math and college professors with computer science and engineering backgrounds will compound the problem of lack of skills and job preparation (Naisbitt).

Furthermore, rising use of robots to perform unskilled and skilled jobs will decrease the number of job opportunities for lower SES groups (Naisbitt). However, there is some debate about implications of high technology for entry-level job opportunities. Some suggest that high tech will provide more, not fewer, low-skilled jobs (Levin and Rumberger, 1983). For every computer programmer's job that is created, according to this line of reasoning, nine unskilled jobs as janitors, nurses' aides and orderlies, etc., will be created. "In such diverse areas as office work, data processing, drafting, wholesale and retail trade and computer programming, microcomputers are making it possible for workers with lower skills to perform highly sophisticated functions" (Levin and Rumberger, p. 15A). A study for the British Department of Industry on the effect of microprocessors indicated that production and service jobs tend to require less skill with addition of this technology (Naisbitt). High tech will also have differential impact on highly skilled occupations. It may eliminate many highly skilled jobs such as drafting (Levin and Rumberger), but it may require greater skill in engineers' and supervisors' jobs (Lund, cited in Naisbitt; see also Berry and Kasarda, 1977).

Distribution of Women in the Labor Force

Another economic trend which points to increasing disparities between SES groups is the movement of women, especially married women and women with children, into the work force (Bartos, 1982). Evidence indicates that this trend, which developed gradually in the earliest years of this century and sharply increased after 1940, is a continuing and irreversible course of events which has its greatest impact on the more advantaged members of society. A rising number of women attend college, and an increasing number go on to graduate school. More and more well-educated women are entering previously male-dominated, high-paying fields. "The most compelling evidence [that the trend will continue] is the strong correlation

between education and women's presence in the work force. . . Two out of three of the best-educated women go to work" (Bartos, p. 34).[6]

Children are not a deterrent to employment. The sharpest rate of increase in women workers is among those with children under the age of six. Only 38 percent of women are engaged in childcare; the majority of women thus are not involved in caring for children (Bartos).

Men and women with higher education and larger incomes tend to marry each other and thus amass social and economic resources at a rate far greater than low SES individuals. The fact which most strongly indicates a widening gap between upper and lower SES strata is the two-paycheck family, which is much more likely to have high education and income than it is to have low education and income (Bartos).

Distribution of Information-Seeking Resources and Media

Information-seeking resources and the new, high tech media, such as cable, microcomputers, teletext, and videotext, are most available to higher SES individuals.

Obtaining information often requires expenditures of time, energy, and money--commodities more available to the more advantaged. The less advantaged frequently must channel more time and energy into sheer survival than must those of greater financial means. Further, information-seeking skills are taught more often in high schools and colleges than in the lower grades. Those who do not complete high school have had less opportunity to learn and use information search skills. Those who have attended college have had more opportunity than the less educated to obtain and develop these skills.

The perception of information need is not distributed equally within society. Those who seem to have the greatest objective needs for certain kinds of information

are also those with the greatest social and economic needs (Suominen, 1976). The disadvantaged frequently are not able to view their problems in terms of information needs, and when they do seek information, are not very active in the search (Childers with Post, 1975). They lack information in a number of vital areas such as elections, consumer affairs, personal health, housing, law, education, welfare resources, and caretaking agencies (Converse, 1962; Childers with Post; Dervin and Greenberg, 1972). The perception of utility of such media as videotext and microcomputers is affected by SES. "For example, up-to-the-minute financial reports are valued more by investors than by non-investors" (Chen and Paisley, 1983:18).

Barriers to media and information access are both internal and external. External barriers include laws, sanctions, and customs; internal barriers include low education, lack of experience, lack of self-confidence, and inability to formulate strategies (Chen and Paisley). Lack of external barriers may provide access in theory, but internal barriers may account for differentials in actual access, according to Chen and Paisley (see also Gaziano, 1983a).

Although television and radio are found in virtually every U.S. household today, print media are less universally used. Books, magazines, and newspapers have increasingly higher costs of production, supplies, and distribution. Bought by the copy or subscription, they may seem more expensive in comparison to broadcast media (which tend to be viewed as a "one-time" expense) or in comparison to other consumer products. The influence of education on ability to decode print may partly explain greater use of broadcast media than print media among the less educated.

Perhaps computer-based systems will be available through the schools and public facilities such as museums and libraries, but internal barriers to use may be operative (Chen and Paisley). However, there are several instances of

lower SES groups' use of such systems, some of which have occurred in experimental research situations and public access situations (Chen and Paisley).

The new high-tech media are more available to those who are financially well-off, and they also require communication skills which higher SES groups are more likely to possess:

> Unlike radio and television, these computer-based media offer no misleading promise of learning without literacy. They will not be expected to close the 'knowledge gap' between literate and nonliterate populations. They will probably widen the 'knowledge gap' and the advantages they provide to their users will certainly raise questions of equity (Chen and Paisley, p. 1).

Others have raised the question of the new media's potential contribution to knowledge gaps and concerns about equity. "Some raise the possibility that the major fruits of the new communication technologies--economic and social knowledge and power--will be enjoyed by the wealthy and well-educated, thus further broadening the historic knowledge and power gap between rich and poor" (Schiller, 1981, cited in Turow, 1983).

Katzman (1974) predicts that the knowledge-rich will continue to acquire knowledge at a rate greater than the knowledge-poor. The knowledge-poor tend to be poor as well in education and financial resources. Mass media increasingly require expensive technology. Information disseminated in costly communication channels is seldom destined to reach low SES strata. "Without the most extensive and open public consideration of what our information society should be, the new era that is upon us may well prove to be fundamentally antipathetic to public information and thus to democracy itself" (Schiller, 1982:95).

Summary

First, a long-term trend toward a more educated population appears to be reversing. The quality of education has declined in the last two decades. Inner-city schools increasingly are dominated by the disadvantaged as the more advantaged

move to suburbs and smaller, more rural communities. The number of high school dropouts and the amount of chronic absenteeism may be increasing. As many as one-fifth of all American adults are functionally illiterate. Because of the frequently documented relationship between education and knowledge of public affairs issues and other topics, one may predict increasing knowledge gaps in the future if numbers of more educated individuals decline.

Second, the decline in education is related to a rising inability of lower SES groups to qualify for many information and industrial jobs. There is a decrease in the number of unskilled and semi-skilled entry-level jobs available. Jobs for which less-skilled workers could qualify are more likely to be located in the suburbs, which are less accessible to lower SES groups. Not only is transportation difficult to obtain but also zoning restrictions and housing discrimination inhibit lower SES groups from moving to suburbs to be near blue-collar jobs. White-collar jobs, which are frequently located in central cities and therefore physically accessible to lower SES groups, require higher and higher levels of skill to perform, thus making these jobs difficult for less advantaged groups to obtain. Although there is some debate over whether or not high technology will create more low-skilled jobs, in many cases technology is eliminating these jobs, for example, as robots are utilized increasingly in industry. Further, cities, which have large populations of the disadvantaged, face a growing inability to provide employment and services to the disadvantaged as population decreases, tax bases erode, service costs rise, employers leave for suburbs, and demands for services rise among non-tax-paying suburbanites who work in the cities.

Third, higher SES families are much more likely to increase their socio-economic resources than are lower SES families as women continue to enter the labor force. Since working women are significantly more likely to have high education than are women who are not employed outside the home, the gap between higher and lower SES groups is likely to widen.

Fourth, the acquisition and use of the new computer-based mass media is most likely to occur among higher SES groups, both for financial reasons and for reasons related to "internal barriers" to use among lower SES groups.

Therefore, lower SES groups are decreasing in their ability to acquire education, jobs, other socioeconomic resources, and certain kinds of mass media.

Low SES strata will fail to gain access to information and decision-making processes if that information increasingly travels in higher SES channels. The thrust of change in American democracy in this century has been to increase participation by all social groups and to elevate their social power. There are many more "haves" in the population than there were decades ago, but the gap between haves and have-nots remains and will widen in the future. Paradoxically, although a number of groups in the U.S. have achieved greater prosperity, social processes have fostered and intensified the development of inequalities, and disparities may increase at a greater rate in the future.

There is a need for academic researchers, business people, and government representatives to address the questions raised by these socioeconomic trends. These include questions of equity; meeting the needs of a large, relatively immobile, poorly educated and low-skilled population; increasing socioeconomic disparities; and mismatches between distributions of blue-collar jobs and residences of blue-collar workers. These issues are of concern to persons interested in mass communication research and knowledge gaps because many socioeconomic disparities are linked to information differentials.

AUTHOR'S NOTE: This paper is based upon a portion of a dissertation (Gaziano, 1983a), for which Professor Phillip J. Tichenor, School of Journalism and Mass Communication, University of Minnesota, served as advisor. Acknowledgment is made of critiques and comments on earlier drafts of this material made by Prof. Tichenor; P. Jean Frazier, Associate Professor of Health Ecology and a Ph.D. candidate in Mass Communication; and Larry Pearson, Ph.D. student in Mass Communication, University of Minnesota. Thanks are due also to Alice Pearson, typist.

FOOTNOTES

[1]Much prior research has shown the existence of inequalities in knowledge of public affairs and other topics between high and low SES (socioeconomic status) segments of the population. [See Gaziano (1982) for a summary of 58 studies with knowledge gap data.] A knowledge gap hypothesis predicts widened knowledge disparities between high and low SES segments as mass media publicity increases about various topics (Tichenor, Donohue, and Olien, 1970).

[2]Illiteracy was widespread in the U.S. in the last century as it was in many parts of the world. By 1900 the rate of adult illiteracy measured by the U.S. Census Bureau was reduced to 10.7 percent, and by 1969 it had declined to one percent, although the disparity between whites and other races was still considerable (Wick, 1980). Primary factors in the inroads made on illiteracy were compulsory education, the abolishment of child labor, the increase in the age at which teenagers could leave school, and a vast increase in funds available for education (Bell, 1973).

By the end of the 1970's, 93 percent of adolescents entered high school, and 80 percent of these entrants graduated. The G.I. bills and student loan programs after Sputnik contributed to the swell in numbers of the college-bound (Bell; Dye, 1975). The federal government expanded its role in education from policy making alone to an enormous financial contribution to secondary and higher education (Dye).

[3]These figures are based on 1980 census data. A breakdown of figures for those not completing high school is: 1 to 3 years of high school, 13.9 percent; 8th grade only, 8.2 percent; 5th, 6th, or 7th grades only, 5.9 percent; no schooling to 4th grade only, 3.4 percent. Seventeen percent of the population 25 years old and older have completed four years of college; almost 15 percent have attended college for one to three years. High school diplomas are held by 36.8 percent. (From the U.S. Department of Commerce, Bureau of the Census, 1981:142.)

[4]Blacks also leave cities for suburbs, usually as they become more affluent. ". . . (T)he higher the family income level, the greater the propensity for the direction of migration [of whites and blacks] to be from central city to suburb; conversely the lower the income level, the greater the propensity for suburb to central city migration." (Sternlieb and Hughes, 1983, bracketed words added by this author.)

[5]The article, Gans, Kasarda, and Molotch (1982), is not a jointly authored manuscript, but instead it is a symposium in which the three urbanologists responded to a set of questions on current urban problems and public policy options.

[6]According to the Bureau of Labor Statistics, in 1979, the following proportions of women in each education group were in the labor force: 8 years of school or less, 23 percent; some high school, 42 percent; high school graduate, 57 percent; some college, 60 percent; four or more years of college, 63 percent (Bartos, 1982:35).

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